

August 1, 2003
Gordon

MEMORANDUM FOR: Commander

SUBJECT: Amendment to the Record of Decision - Modification to Issued Permit

1. Name: Seattle, Port of

Permit No: 199602325

Date Issued: December 13, 2002

2. Nature of Revised Work: The original plans were to access the Auburn mitigation site via 49th Street NE, locate the Auburn flood conveyance channel on the property immediately north of the Auburn mitigation site, phase conifer plantings at all mitigation sites, plant only native species on the approved Natural Resource Management Plan (NRMP) list of species, and grade a 0.3 of an acre portion of the Des Moines Way Nursery mitigation site to a slope. The modifications consist of accessing the Auburn mitigation site from a recently purchased 35 acre parcel located to the northwest of the Auburn mitigation site abutting 277th Street, re-locating some of the staging to this new property, potentially re-locating a portion of the flood conveyance channel to this new 35 acre parcel, eliminating phasing of conifer plantings, allowing Corps approved substitutions/additions to the NRMP approved list of native plant species, and grading a 0.3 of an acre portion of the Des Moines Way Nursery mitigation site to a flat surface. The requested modifications reduce wetland impacts, increase habitat diversity and function, and preclude construction related traffic congestion on 49th Street NE in Auburn.

3. Pertinent Information: This modification has been reviewed in light of the original comments received prior to issuance of this permit from the public and agency coordination.

4. Request Commander sign Amendment to Record of Decision.

Encls

CENWS-DE 1st Ed

Commander

For Ch, Reg Br

Signed forms returned herewith

Enf

Env Spec

Sec. Ch.

Ch. Reg Br

OC

Ch, Opns Div

DE

af 9/5/03

af 9/5/03

af 9/16/03

af 9/16/03

(af) 9/17/03

DM 9/22/03

AMENDMENT
to the
RECORD OF DECISION
dated December 13, 2002
for Work Authorized in Accordance with
Section 404 of the Clean Water Act
Described in Permit Application No. 199602325
Seattle, Port of

1. This document discusses proposed modifications to Seattle Tacoma International Airport's mitigation plans and drawings for the proposed Master Plan Update Improvements, including the Third Runway, Runway Safety Areas, and South Aviation Support Area. The major items within the original plans that are proposed to be changed are listed in italics below. The description of each proposed modification follows the italicized heading. These modifications were requested because the Port of Seattle (Port) has found several methods of reducing negative environmental and human impacts.

Temporary construction access and staging at the Auburn Mitigation Site.

The mitigation site was originally accessed from 49th Street NE, a congested side street. The Port has purchased 35 acres adjacent to South 277th Street to allow direct access via a major, recently upgraded, thoroughfare. The relocation of construction access allows the on-site relocation of some construction staging as well as the access point (see Sheet 18). Relocation of temporary construction access and construction staging to the newly acquired parcel reduces temporary wetland impacts from 6.66 to 4.34 acres; a reduction of 2.32 acres (see Table 1 below). Relocation of the access point will also reduce negative traffic flow impacts to and from 49th Street NE. Permanent (non-construction related) access to the mitigation site would remain the same.

The U.S. Army Corps of Engineers (Corps) concurs with the Port's request. Changing the construction access from a heavily used residential street to a single purpose construction access will preclude increased traffic congestion on 49th Street NE and the wetland impacts will also be reduced.

Relocation of a portion of the flood conveyance channel.

To prevent retention of flood waters on the mitigation site the, City of Auburn (City) required the Port to provide a year round flood conveyance channel connecting the Auburn Mitigation Site and the Green River. The Port met this requirement by securing an easement on the Bristol property north of the mitigation site. The Port subsequently purchased a 35-acre parcel to the northwest of the mitigation site. The Port has determined that it is desirable to re-locate a portion of the flood conveyance channel to that property. The Port believes they can better assure the permanence of the flood conveyance channel on property they own versus the Bristol property on which they have an easement for the flood conveyance channel. The Port also concluded the relocation would lessen wetlands impacted.

However, the 35-acre parcel will be impacted in the future by the City's development of two streets ("I" Street and an as yet unnamed intersecting street). Because the City has as not yet determined the location of those streets on the Port's 35-acre property, the Port will maintain the easement and the flood conveyance channel on the Bristol property until such time as the streets on the 35-acre parcel are platted. At that time, restrictive covenants will be placed on the 35-acre Port property to protect the alignment of the flood conveyance channel. If however, the flood conveyance channel, with adequate protection, cannot be constructed on the Port's property it will remain on the Bristol property. The flood conveyance channel will therefore exist on one property or the other.

The alignment of the flood conveyance channel on the Bristol property as originally proposed impacted 2.20 acres of wetlands. The proposed re-location to the Port property would impact 1.39 acres. A reduction in wetland impacts of 0.81 of an acre will be realized. Therefore, the impacts of the Port's actions will be as originally projected or reduced by 0.81 of an acre.

For the following reasons the Corps concurs with the proposed changes. A flood conveyance channel needs to be provided. The Port would have a greater measure of control over what happens on their property than on the Bristol property on which they have an easement. The re-routed flood conveyance channel would connect to the 277th Street ditch system and ultimately the Green River in the same way, albeit at a different location, as the flood conveyance channel across the Bristol property. However, if the channel cannot be relocated, the channel on the Bristol properties will continue to function as originally proposed and approved.

To assure that a flood conveyance channel is construction and there are no negative changes to wetland impacts, the Corps has added Special Condition "t" as described at the end of this document.

Phasing of conifer plantings at all mitigation sites.

The Port requests a modification of the NRMP planting plan requirement that some conifer species be planted in phases at all sites. They also request a modification of the re-planting requirement. The intent of the phased plantings was to increase the overall survival rate of the conifers planted by planting some conifer species later when shade was available to enhance their chances of survival. The Port's review of conifer survival on other mitigation sites indicates that the irrigation system located in the area these species would be planted and an expanded requirement to re-plant dead trees will provide greater habitat gain earlier in the mitigation effort. The requested change would allow planting of all conifer species the first year of mitigation site construction versus phased plantings. The Port would then replant any dead conifers in the first and third year after construction. This re-planting plan increases the rate of conifer survival from 80% in the third year post-construction to 100%. The Port's reason for replanting conifers in the third year is to assure a 100% survival rate to match the survival rates in the existing Natural Resource Mitigation Plan (NRMP).

The Corps concurs with the Port's conclusions because there will be no change to the long-term rate of conifer survival and because habitat associated with the conifer plantings will be available

sooner. To ensure the 100% survival at the ends of both Year 1 and Year 3 of monitoring is achieved, Special Condition “u” as described below has been added to the permit.

Addition or substitution of native plant species to the list of approved plant species included in the NRMP.

The Port requests the option of supplementing or substituting native plant species included within the NRMP without further permit modifications. The Corps recognizes that changing site conditions and increased knowledge of plant species functions and floral and faunal interactions may make species that are currently not on the list desirable in the future. The Corps’ adaptive management strategy for the mitigation site (detailed in the NRMP) espouses this same philosophy.

The Corps concurs with the Port’s request with one revision. The Port may make supplements or substitutions of native plants within the approved NRMP native plant list as requested (e.g., with species native to western Washington of the same life form {tree/shrub/herb} and that provide the same or superior ecological benefits to the mitigation project) with written approval by the Corps. Due to the complexity of the structure and function of plant communities intended to be established, the Corps would retain oversight to assure the preferred functional interactions of the upland and wetland communities do not change. As the authorizing entity, the Corps must also retain approval authority to assure mitigation goals and objectives are achieved. Any additions and/or substitutions of native plant species (as approved by the Corps) will be reflected in the as-built drawings of the mitigation site and/or subsequent monitoring reports. Special Condition “v” as stated below requires written Corps approval of any changes to the approved native plant species list within the Natural Resource Mitigation Plan.

Grading modification at Des Moines Way Nursery Mitigation site.

The Port requests a modification of the grading plan at the Des Moines Way Nursery site (see Sheet 19). The approved plan called for the 0.3 of an acre in question to be graded as a portion of a slope (i.e., a planar surface matching the rest of the slope). The requested change would allow the affected acreage to be graded to a flat bench (i.e., a depression on the slope) at approximately the 273-foot mean sea level (msl) elevation versus the approved slope at elevations 274 to 276 feet msl. The Port’s groundwater data indicates that if a bench is formed in this location that saturated soils will be present during early and mid-spring of normal precipitation years. This longer duration of hydrology enhances the quality of the wetland mitigation.

The Corps concurs with this change. A cross-section detailing the elevation change at the Des Moines Way Nursery site will be submitted with as-built drawings of the mitigation site. No change to the planting plan will result from the change in grading.

Summary

The permit modifications proposed by the Port reduce already permitted wetland impacts, increase habitat diversity and function, and enhance the ability to adaptively manage the mitigation sites. Compared to the Port’s approved Section 404 permit, the revised temporary

access and staging plan crosses the same wetland and ditch systems but in different locations. The proposed changes will affect the same type of wetlands approved by the permit and reduce impacts to wetlands resulting from construction access by 0.85 of acre, from construction staging by 1.47 acres, and possibly from the flood conveyance channel construction by 0.81 of an acre, resulting in a maximum potential overall reduction in wetland impacts of 3.13 acres. Relocating a portion of the flood conveyance channel to the Port's new property allows the Port to have full and complete control and access to this portion of the mitigation project and avoids impacting the adjacent property owner with this project feature.

Table 1. Summary Of Changes To Wetland Impacts At The Auburn Wetland Mitigation Site*

Project Element	404 Permit As Issued	As Revised	Reduction
Construction Access	1.55	0.70	-0.85
Construction Staging	5.11	3.64	-1.47
Sub-total	6.66	4.34	-2.32
Flood Channel	2.2	1.39	-0.81*
TOTAL	8.86	5.73	-3.13

* This table reflects the changes that will accrue if the flood conveyance channel is moved to the Ports new property. If the flood conveyance channel remains on the Bristol property no changes to wetland impacts will occur.

Figures & Drawings.

The Port provided revised permit drawings dated August 2003 reflecting the changes described in this document.

Special Conditions.

The preceding listed proposed revisions result in the following changes to the special conditions in the Section 404 permit dated December 13, 2003:

The original condition was:

- f. The Natural Resource Mitigation Plan, Master Plan Update Improvements, Seattle-Tacoma International Airport (NRMP) dated November 2001 with the corrections dated January 2002, February 2002, and November 2002, will be implemented. The dates for the submittals of as-built drawings and monitoring reports are as described in the table titled "Reporting schedule for mitigation projects during the 15-year monitoring period". Year 0 is the year the as-built drawings are approved by the Corps in writing.

The modified condition is:

f. The Natural Resource Mitigation Plan, Master Plan Update Improvements, Seattle-Tacoma International Airport (NRMP) dated November 2001 with the corrections dated January 2002, February 2002, November 2002, and the revised drawings dated August 2003 will be implemented. The dates for the submittals of as-built drawings and monitoring reports are as described in the table titled "Reporting schedule for mitigation projects during the 15-year monitoring period". Year 0 is the year the as-built drawings are approved by the Corps in writing.

Special Conditions "t", "u", and "v" will be added. They read:

t. To ensure flood conveyance for the Auburn Mitigation Site, the Port will provide and maintain a drainage path between the Auburn Mitigation Site and the ditch located in the South 277th Street right-of-way. The drainage path will have a cross sectional area of at least 16 square feet and have an invert elevation of 41.0 feet (NGVD 29) or below. During non-flood periods, the drainage path will convey water from the mitigation site to the South 277th Street ditch at volumes that are sufficient to prevent backwater ponding above elevation 42 feet on the mitigation site.

u. For the conifer plantings throughout the on and offsite mitigation areas, survival of planted stock will be 100% at the end of Year 1 and Year 3 monitoring.

v. Prior to making any additions, substitutions, and/or deletions of native plant species listed on the approved native plant species list contained within the Natural Resource Mitigation Plan, the Port shall receive written approval from the Corps.

2. This request for modification has been reviewed in light of the original comments received prior to issuance of this permit from the public and agency coordination. This review has not identified any potentially significant adverse effects as a result of the proposed modification.

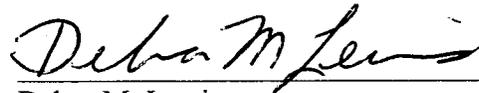
3. There will be no additional adverse environmental effects caused by the modification stipulated above. There has been no change in the attendant circumstances, which surrounded issuance of the original permit. Because the modification is minor in nature, further coordination is not required.

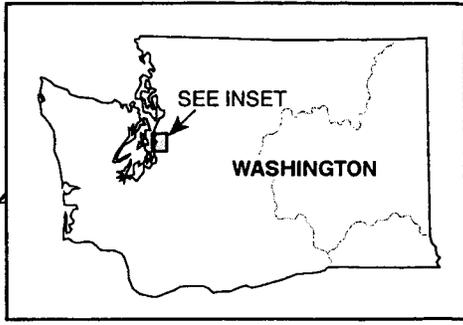
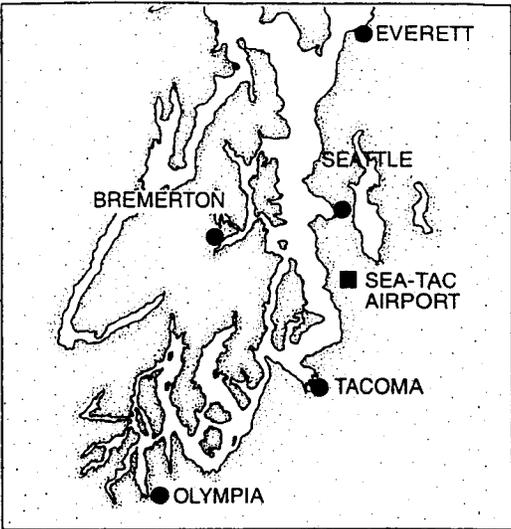
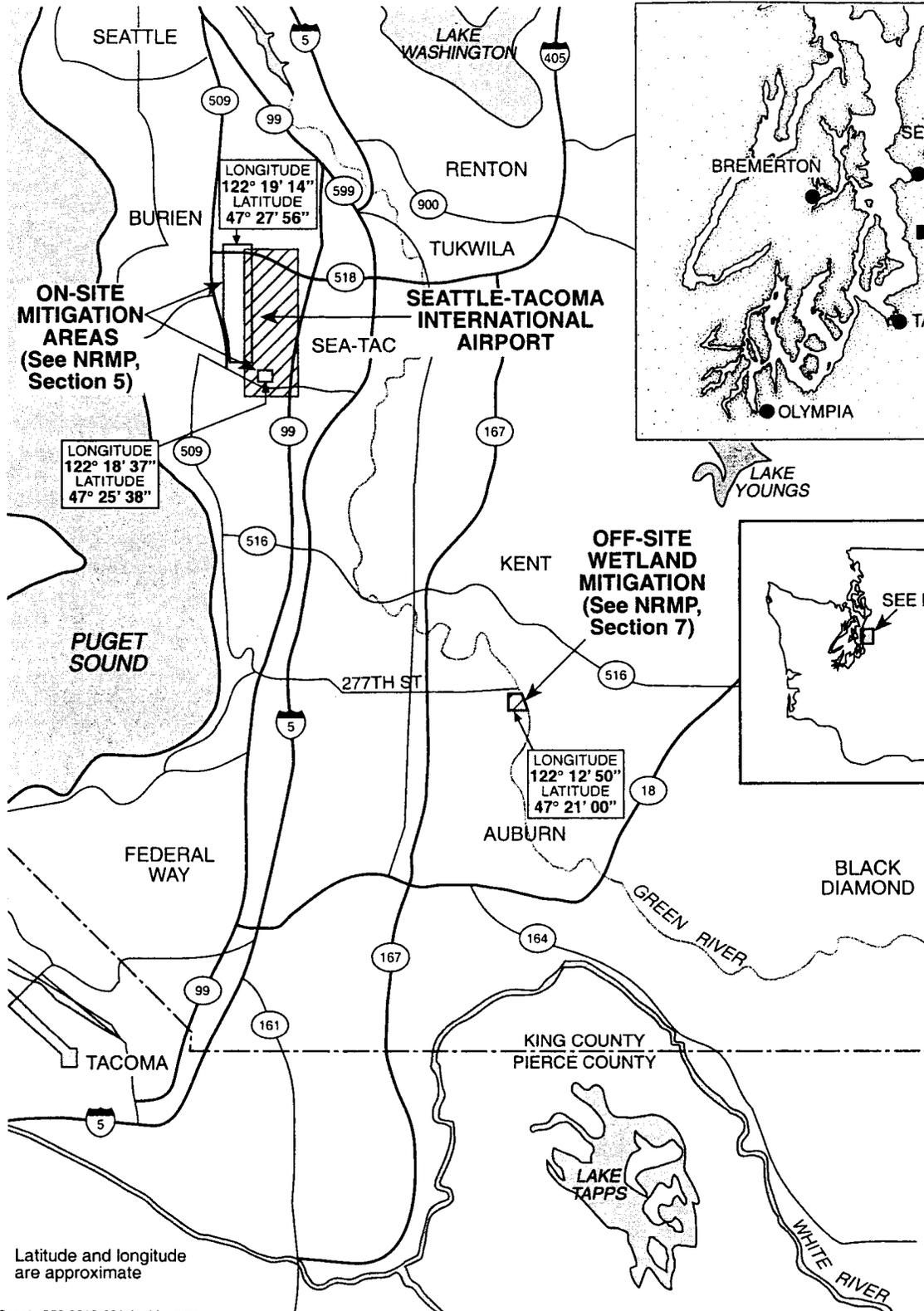
4. I find that this modification of the Department of the Army permit is predicated upon thorough analysis of the various factors identified herein. The revised work is deemed to comply with State and local laws, regulations, and codes. There are no identified major adverse environmental effects. The revised work is consonant with National policy, statutes, and administrative directives. The total public interest would best be served by the authorization of the modification to the Department of the Army permit.

5. I have determined that performance of the work, in accordance with the conditions of the permit, will not significantly affect the quality of the human environment. Further, I have determined that a modification of the work authorized by this particular permit is a Federal action not having a significant impact on the environment and thus have concluded that the preparation of a formal Environmental Impact Statement is not required.

6. I have determined that a new public notice is not required for these modifications. The changes are not considered to be significant, will not result in greater impacts, and the changes in the application data would not affect the public's view of the proposal.

22 Sep 03
Date


Debra M. Lewis
Colonel, Corps of Engineers
District Engineer

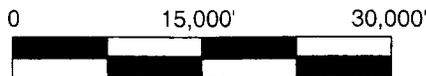


Note: Latitude and longitude are approximate

Port of Seattle/556-2912-001/01(03) 7/02

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

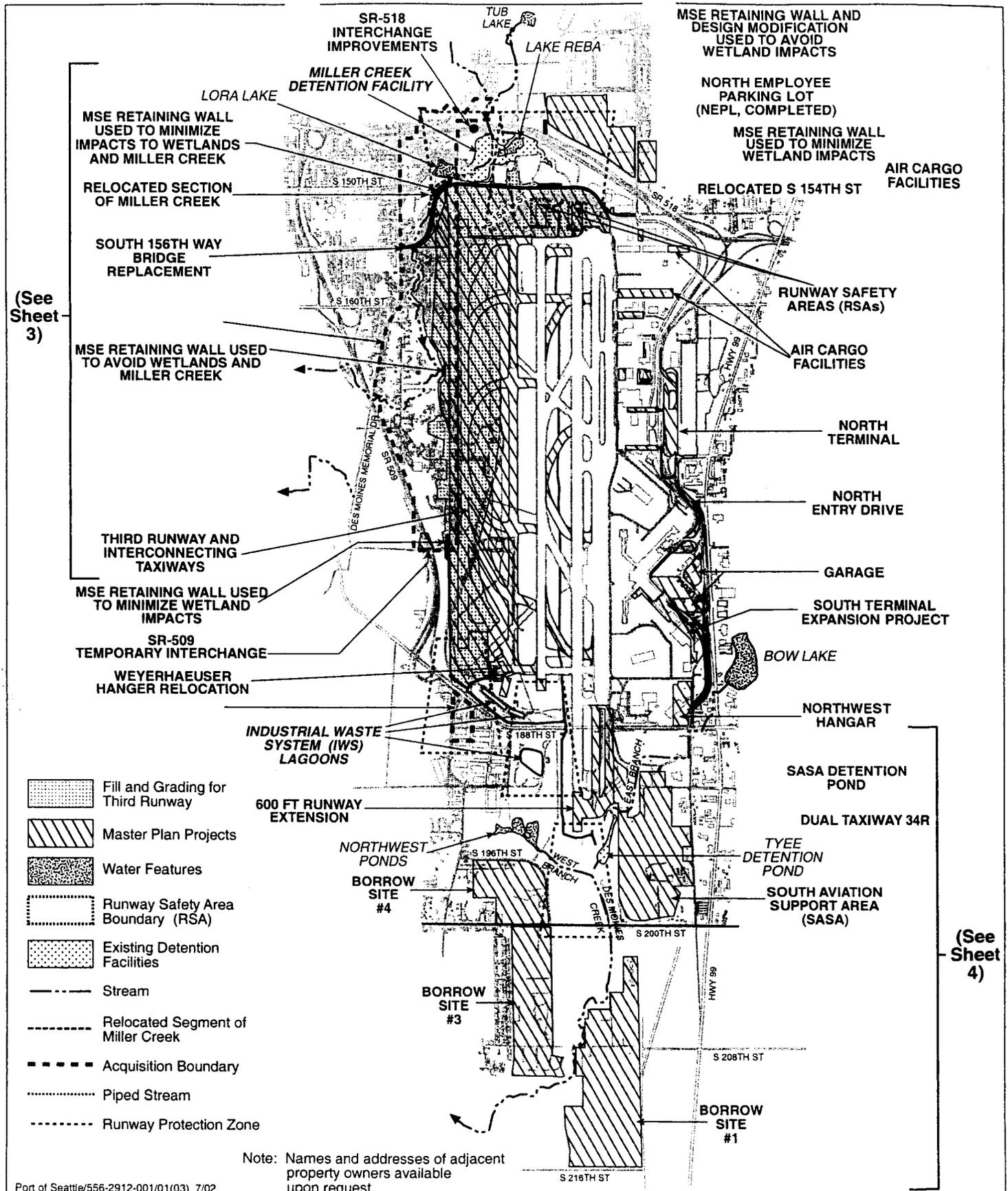
VICINITY MAP



SCALE 1" = 1,500'

IMPACT/MITIGATION SITES FOR PROPOSED MASTER PLAN UPDATE IMPROVEMENTS AT SEATTLE TACOMA INTERNATIONAL AIRPORT

IN: SECTIONS 20, 21, 28, 29, 32, AND 33, TOWNSHIP 23N, RANGE 4E; SECTIONS 4, 5, AND 9 TOWNSHIP 22N, RANGE 4E; AND SECTION 31 TOWNSHIP 22N, RANGE 5E
 COUNTY OF: KING STATE: WA
 APPLICATION BY: PORT OF SEATTLE
 SHFFT 1 of 19 REVISED: AUGUST 2003



Port of Seattle/556-2912-001/01(03) 7/02

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

96-4-02325

PLAN VIEW



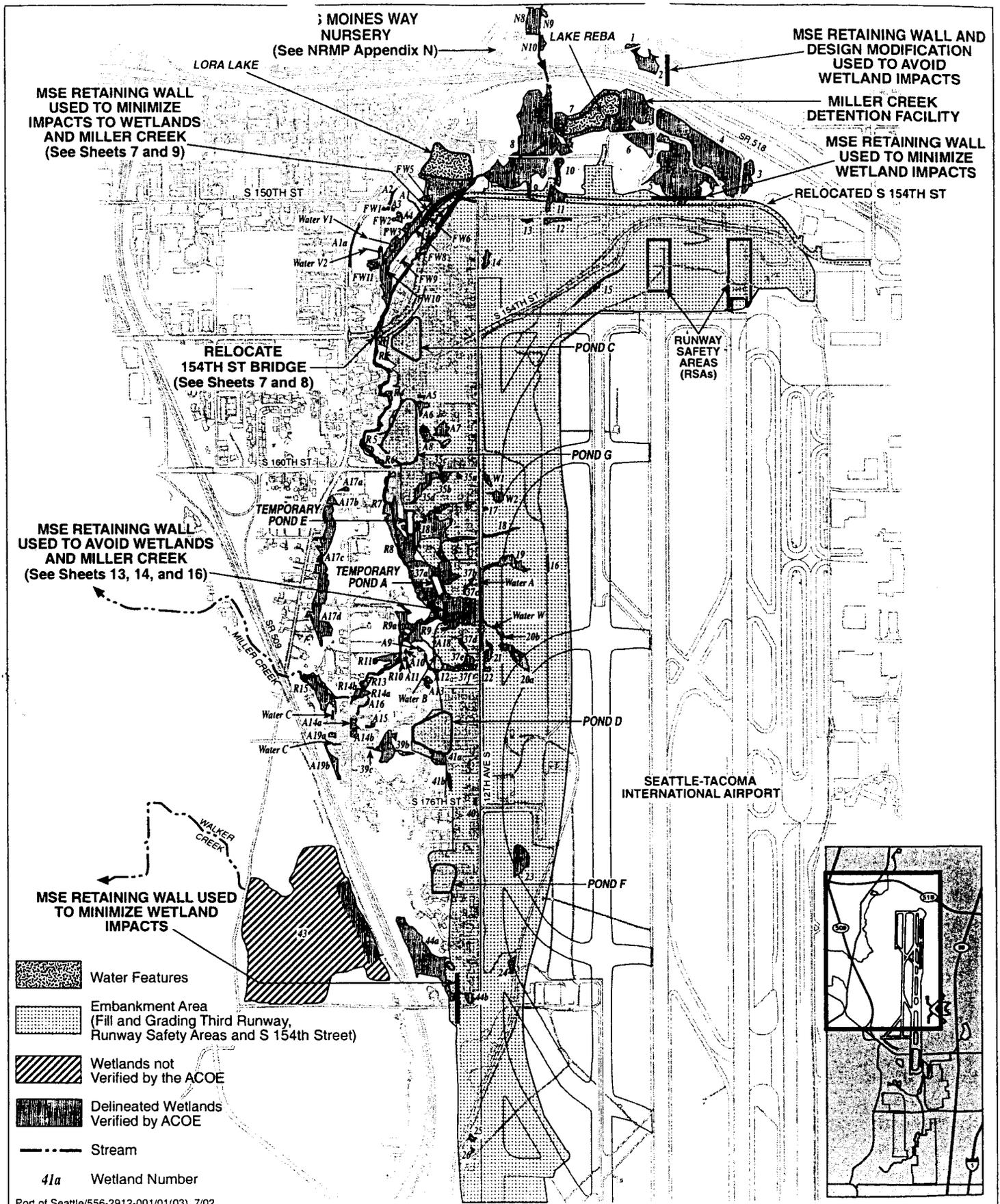
0 1,800' 3,600'



SCALE 1" = 2,700'

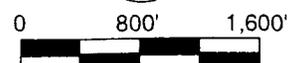
PROPOSED MASTER PLAN UPDATE IMPROVEMENT PROJECTS AT STIA

IN SECTIONS 20, 21, 28, 29, 32, AND 33, TOWNSHIP 23N, RANGE 4E; SECTIONS 4, 5, AND 9 TOWNSHIP 22N, RANGE 4E
 COUNTY OF: KING STATE: WA
 APPLICATION BY: PORT OF SEATTLE
 SHEET 2 of 19 REVISED: AUGUST 2003



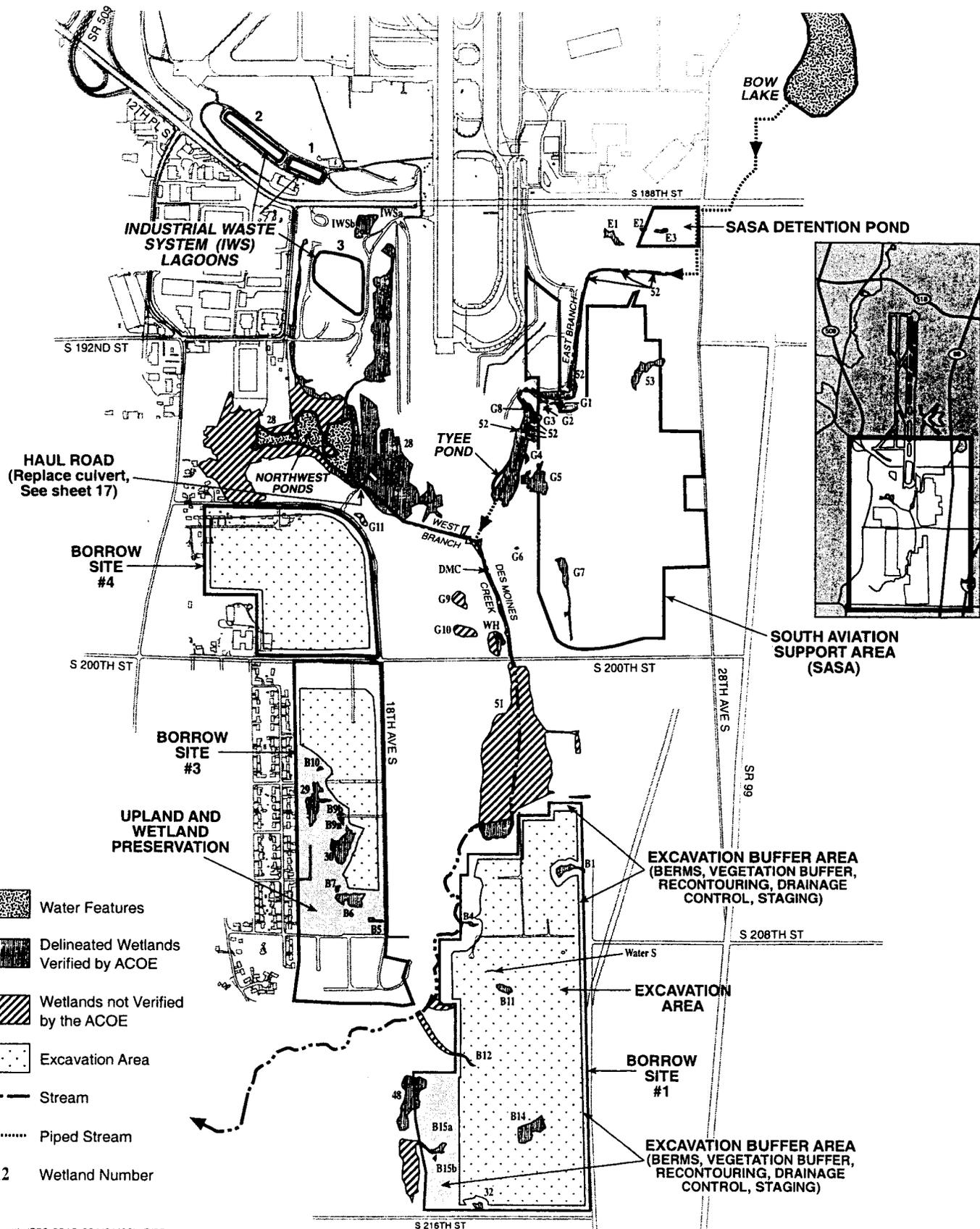
PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

PLAN VIEW



WETLANDS IN THE MILLER CREEK BASIN IMPACTED BY MASTER PLAN UPDATE IMPROVEMENTS

IN SECTIONS 20, 21, 28, 29, 32, 33
TOWNSHIP 23N, RANGE 4E
COUNTY OF: KING STATE: WA
APPLICATION BY: PORT OF SEATTLE



-  Water Features
-  Delineated Wetlands Verified by ACOE
-  Wetlands not Verified by the ACOE
-  Excavation Area
-  Stream
-  Piped Stream
- B12** Wetland Number

Port of Seattle/556-2912-001/01(03) 7/02

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

96-4-02325

PLAN VIEW



SCALE 1" = 1,300'

WETLANDS IN THE DES MOINES CREEK BASIN IMPACTED BY MASTER PLAN UPDATE IMPROVEMENTS

IN SECTIONS 4, 5, AND 9 TOWNSHIP 22N, RANGE 4E

COUNTY OF: KING STATE: WA

APPLICATION BY: PORT OF SEATTLE

SHEET 4 of 19 REVISED: AUGUST 2003

In the approximately 2,600-acre area that will be owned by the Port of Seattle after property acquisition is complete, there are approximately 117 delineated wetlands associated with Master Plan Update improvements totaling approximately 115 acres. Full implementation of the proposed Master Plan Update improvements will permanently impact approximately 18.37 acres of wetlands, including 8.17 acres of forested wetlands, 2.98 acres of scrub-shrub wetlands, and 7.22 acres of emergent wetlands. A complete description of wetlands in the impact area is included in the *Wetland Delineation Report* and *Natural Resource Mitigation Plan*.

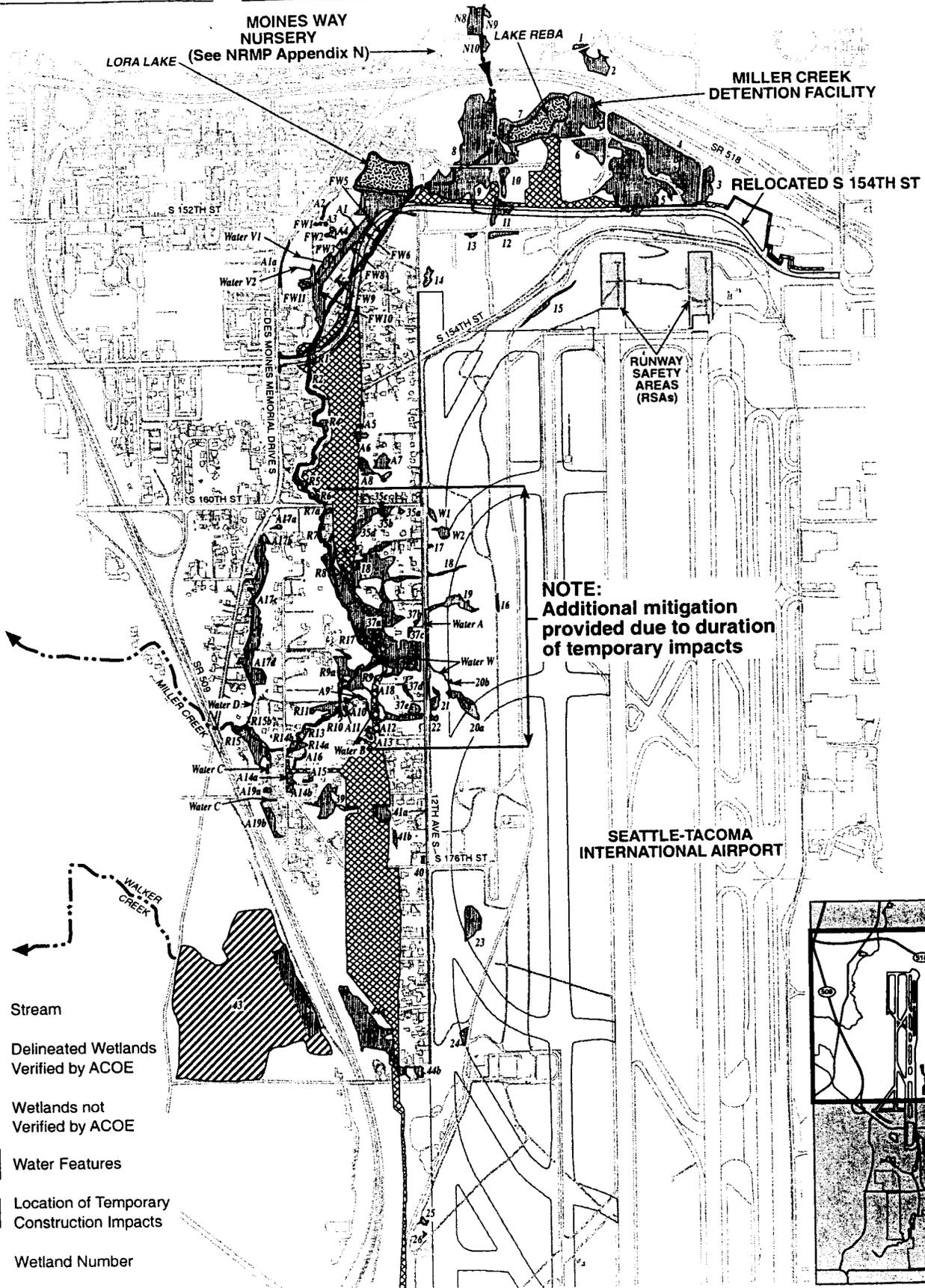
Master Plan Project Element	Impact (acres)		
	Indirect	Direct	Temporary
Runway Safety Area Extension	0.00	0.14	0.40
Third Runway Project	1.29	12.94	1.48*
South Aviation Support Area	1.07	1.71	0.17
Borrow Area and Haul Road	0.04	1.06	0.00
Mitigation	0.00	0.12	See Below
Total	2.40	15.97	2.05

*Regardless of their ultimate restoration, the Corps considers temporary impacts to wetlands 18, 37, 44a, R2, A12 and A13 (totaling 1.25 acres) to be permanent.

Mitigation Details		Temporary Impact (acres)
On-Site		
Grading, Excavation, or Staging		4.71
Planting		<u>16.38</u>
Subtotal		21.09
Off-Site		
Grading, Excavation, or Staging		12.67
Planting		<u>10.60</u>
Subtotal		23.27*
Total		44.36

*Impacts are reduced if alternate locations are used for the flood-plain channel (See Option 2, Sheet 18 of 19).

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND	PERMANENT IMPACTS TO WETLANDS	IN: SECTIONS 20, 21, 28, 29, 32, AND 33, TOWNSHIP 23N, RANGE 4E; SECTIONS 4, 5, AND 9, TOWNSHIP 22N, RANGE 4E; SECTION 31, TOWNSHIP 22N, RANGE 5E COUNTY OF: KING STATE: WA APPLICATION BY: PORT OF SEATTLE SHEET 5 OF 19 Revised AUGUST 2003
96-4-02325		



NOTE:
Additional mitigation
provided due to duration
of temporary impacts

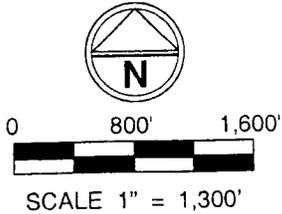
- Stream
- Delineated Wetlands Verified by ACOE
- Wetlands not Verified by ACOE
- Water Features
- Location of Temporary Construction Impacts
- 41a Wetland Number

Port of Seattle/556-2912-001/01(03) 7/02

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

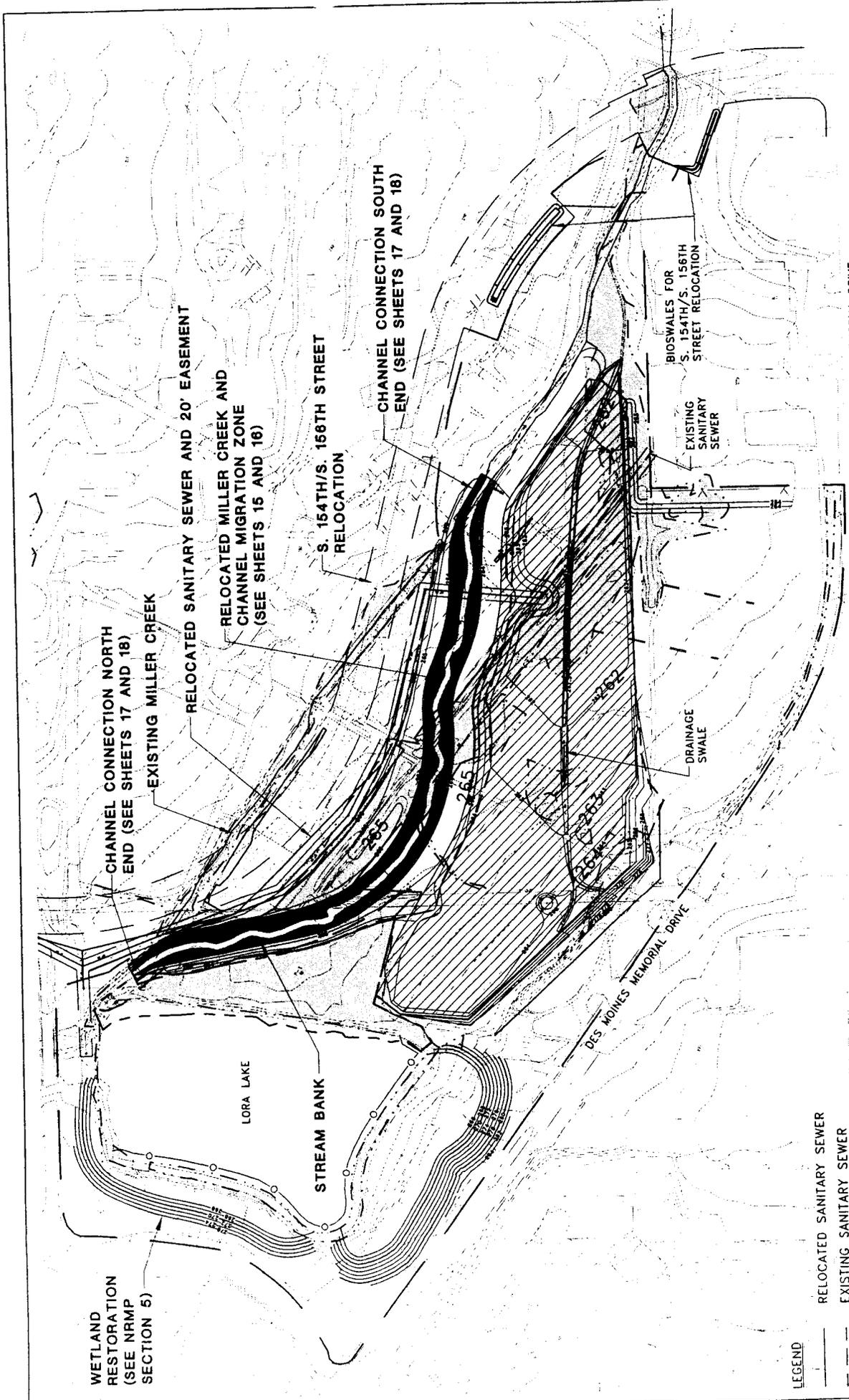
96-4-02325

PLAN VIEW



TEMPORARY PROJECT CONSTRUCTION IMPACTS TO WETLANDS IN THE MILLER CREEK BASIN

SECTIONS 20, 21, 28, 29, 32 AND 33,
TOWNSHIP 23N, RANGE 4E
COUNTY OF: KING STATE: WA
APPLICATION BY: PORT OF SEATTLE
SHEET 6 of 19 REVISED: AUGUST 2003



GRADING PLAN FOR THE MILLER CREEK RELOCATION AND FLOODPLAIN ENHANCEMENT AT VACCA FARM

IN: SECTION 20, TOWNSHIP 23N, RANGE 4E
 COUNTY OF: KING STATE OF: WA
 APPLICATION BY: PORT OF SEATTLE

SHEET 7 OF 19 REVISED: AUGUST 2003

PLAN VIEW

DES MOINES MEMORIAL DRIVE

0 225' 225'

CONTOUR INTERVAL = 2 FEET
 SCALE 1" = 225'

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

DATUM: SEACAT GRID

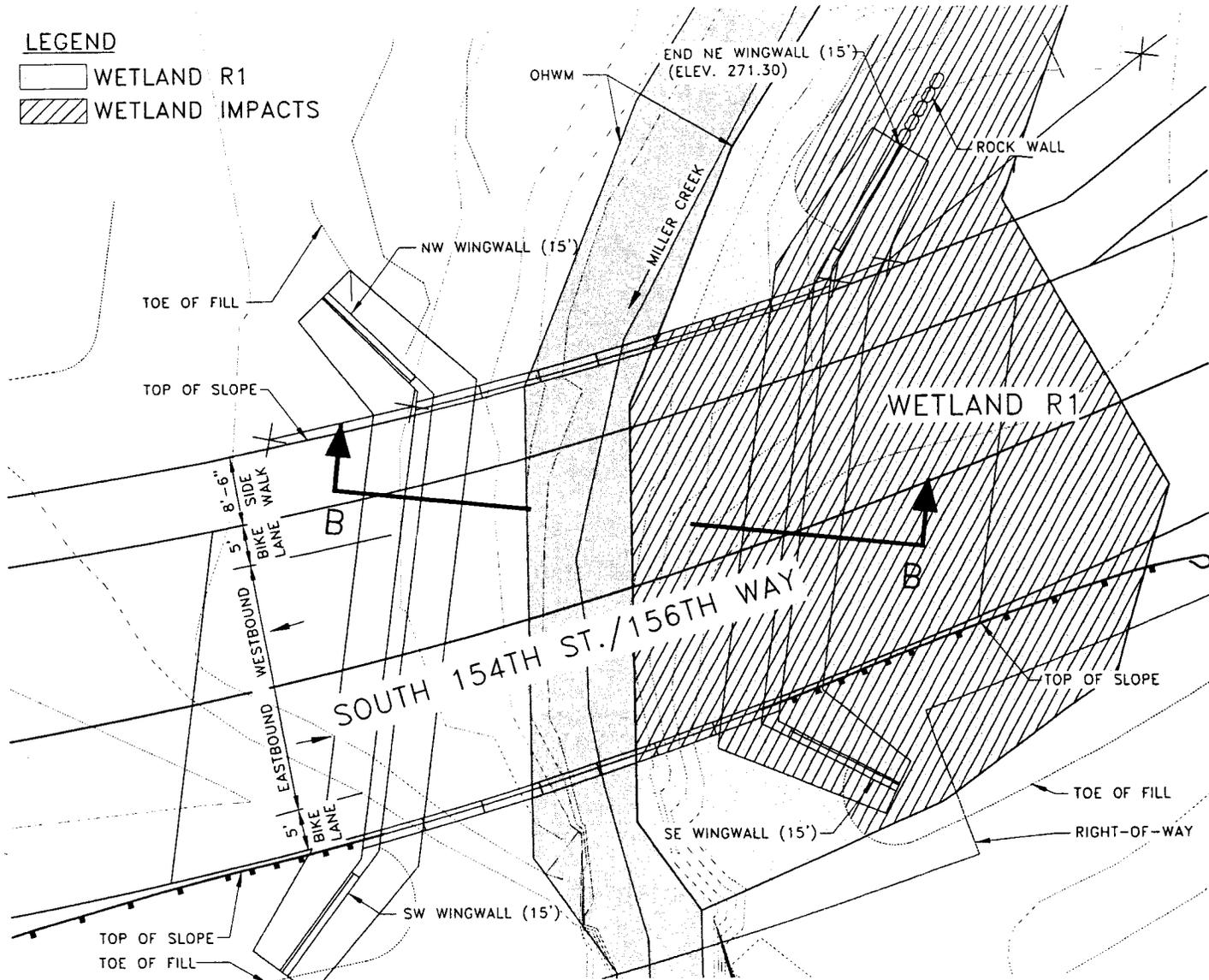
96-4-02325

LEGEND

- RELOCATED SANITARY SEWER
- EXISTING SANITARY SEWER
- WETLAND BOUNDARY
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMIT OF CONSTRUCTION
- FILLED FLOODPLAIN
8,455 CY (5.24 AC.-FT.)
- WETLAND
- PROPOSED FLOODPLAIN EXCAVATION
9,589 CY (5.94 AC.-FT.)

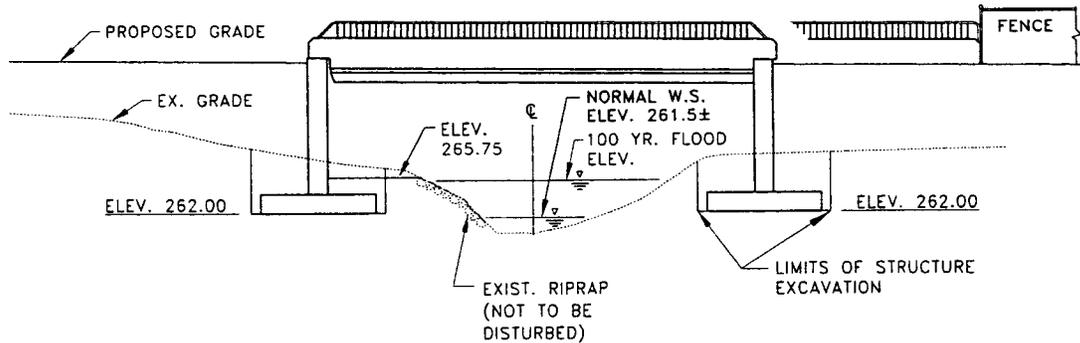
LEGEND

-  WETLAND R1
-  WETLAND IMPACTS



PLAN

SCALE 1"=20'



SECTION - B

SCALE 1"=20'

NOTE:
ALL DISTURBED AREAS WILL BE STABILIZED
USING APPROPRIATE B.M.P.S.

PURPOSE: MEET PUBLIC NEED FOR
EFFICIENT REGIONAL AIR
TRANSPORTATION FACILITY
TO MEET ANTICIPATED
FUTURE DEMAND

PLAN VIEW



SCALE: 1"=20'

**SOUTH 156th WAY BRIDGE
RELOCATION**

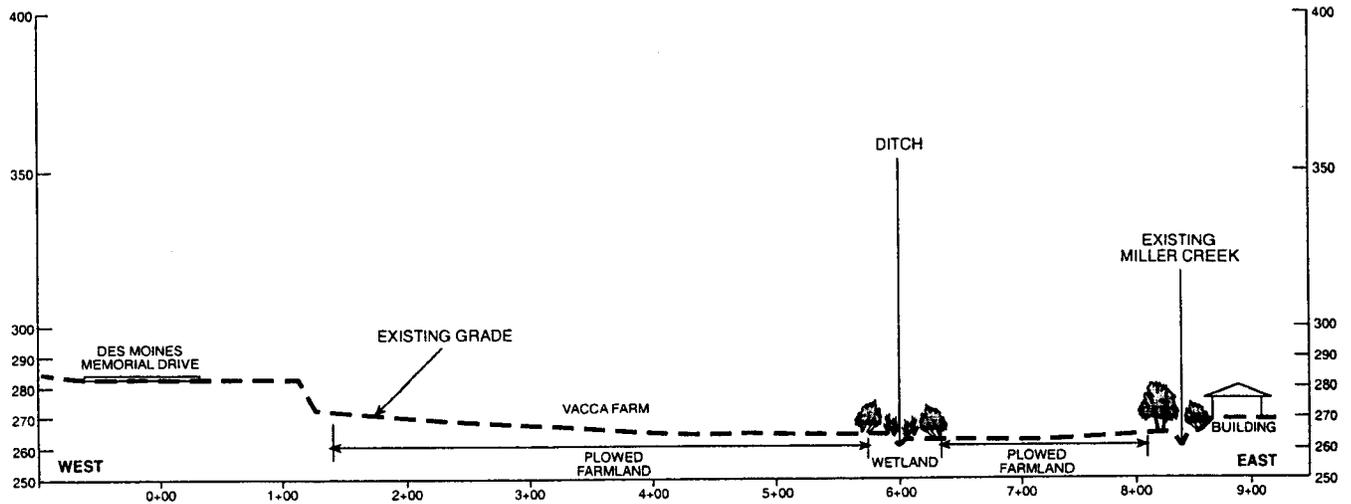
IN: SECTION 20, TOWNSHIP 23N, RANGE 4E
COUNTY OF: KING STATE OF: WA

APPLICATION BY: PORT OF SEATTLE

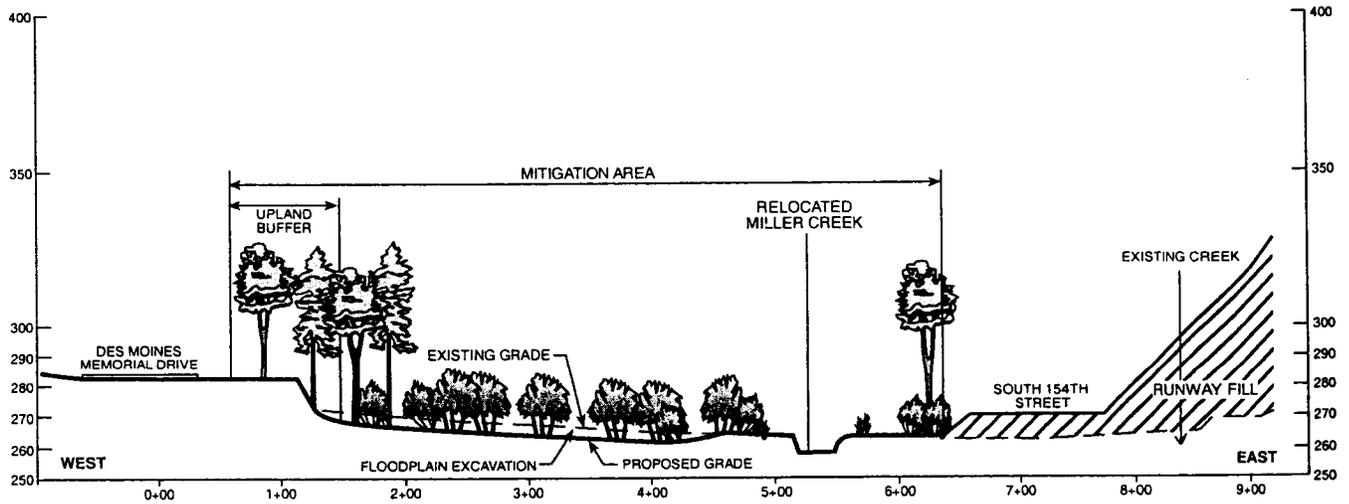
SHEET 8 OF 19

REVISED: AUGUST 2003

Existing Conditions



Post-Mitigation



Port of Seattle/556-2912-001/01(03) 7/02

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

DATUM: VERTICAL: KING COUNTY HORIZONTAL: SEA-TAC GRID

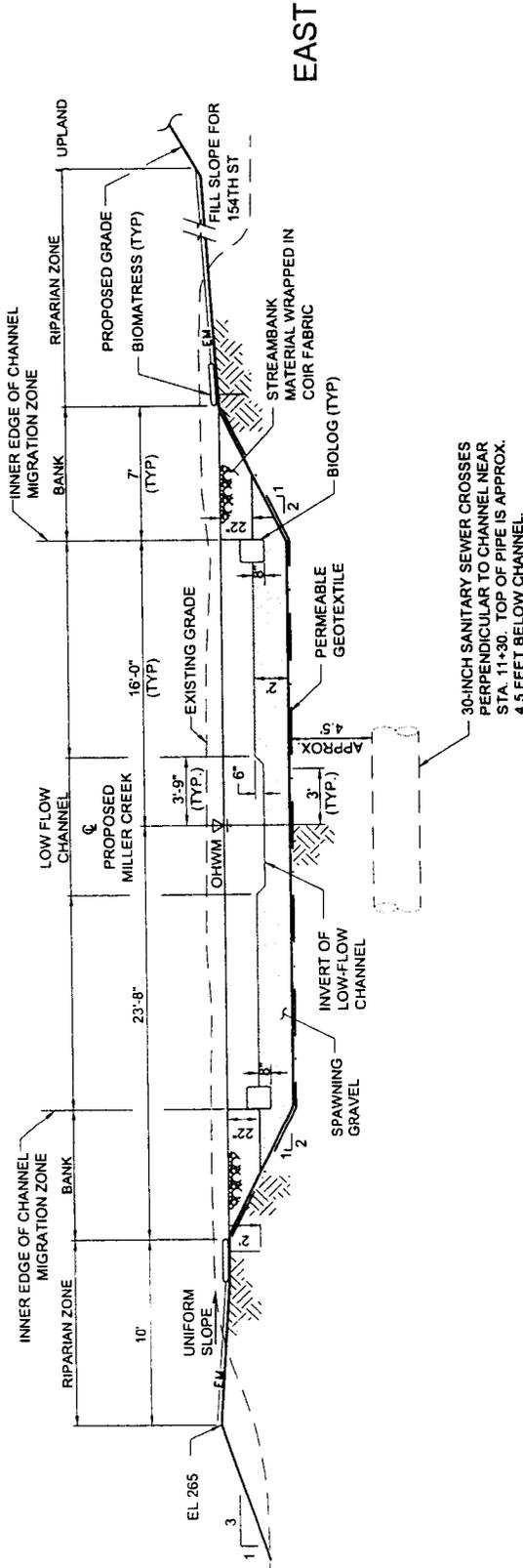
96-4-02325

SECTION VIEW

VERTICAL SCALE 1" = 60'
HORIZONTAL SCALE 1" = 150'

TYPICAL CROSS SECTION PROPOSED GRADING FOR MILLER CREEK RELOCATION AND FLOODPLAIN ENHANCEMENT AT VACCA FARM

IN: SECTION 20, TOWNSHIP 23N, RANGE 4E
COUNTY OF: KING STATE: WA
APPLICATION BY: PORT OF SEATTLE
SHEET 9 of 19 REVISED: AUGUST 2003



PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

96-4-02325

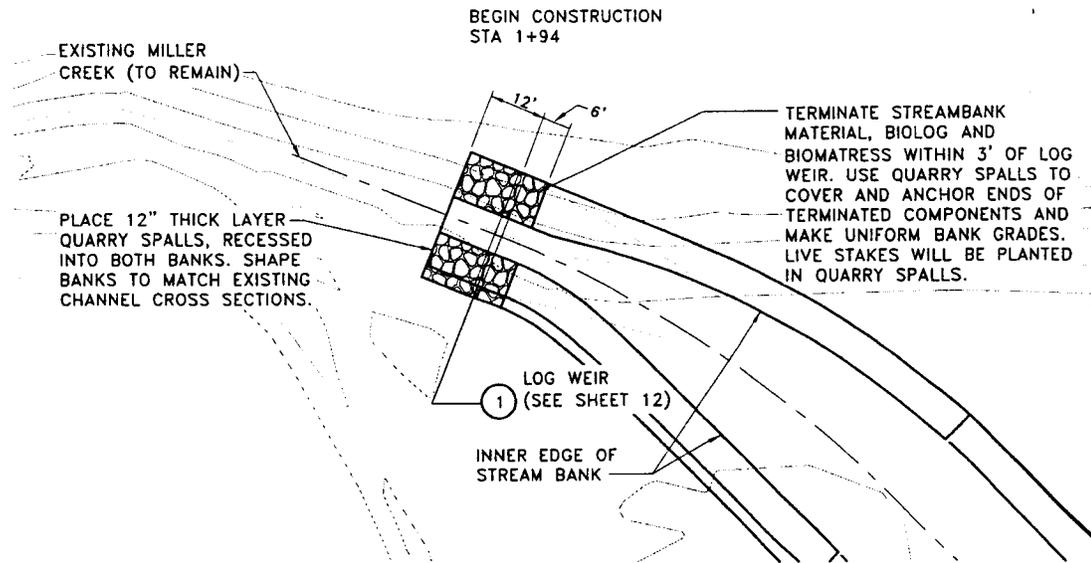
TYPICAL CROSS SECTION

SCALE 1" = 10'

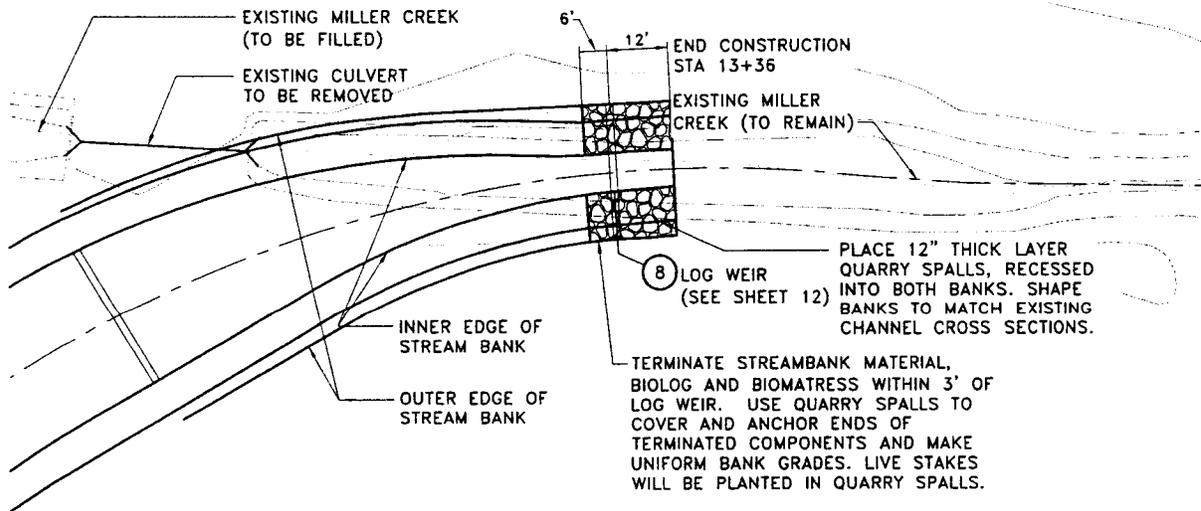
TYPICAL CHANNEL CROSS SECTION,
MILLER CREEK RELOCATION

IN: SECTION 20, TOWNSHIP 23N, RANGE 4E
COUNTY OF: KING STATE OF: WA
APPLICATION BY: PORT OF SEATTLE

SHEET 10 OF 19 REVISED: AUGUST 2003



DETAIL
CHANNEL CONNECTION
NORTH END
SCALE: 1"=40'



DETAIL
CHANNEL CONNECTION
SOUTH END
SCALE: 1"=40'

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

DATUM: SEATAC GRID
96-4-02325

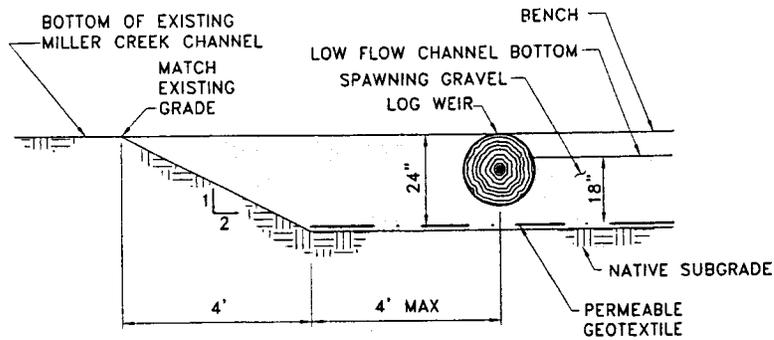
PLAN VIEW

SCALE: AS SHOWN

RELOCATED MILLER CREEK CHANNEL CONNECTIONS TO EXISTING CREEK

IN: SECTION 20, TOWNSHIP 23N, RANGE 4E
COUNTY OF: KING STATE OF: WA
APPLICATION BY: PORT OF SEATTLE
SHEET 11 OF 19 REVISED: AUGUST 2003

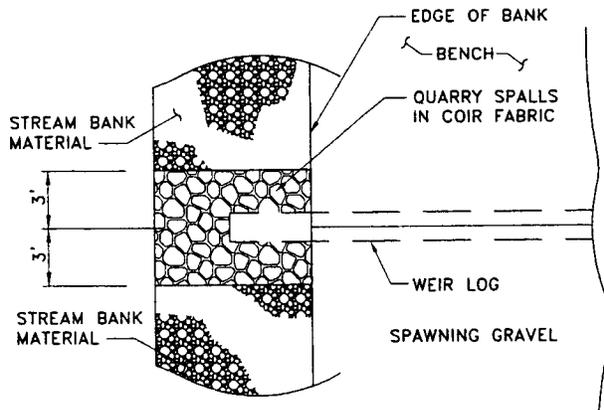
← STREAM FLOW DIRECTION, LOG WEIR NO. 8
 STREAM FLOW DIRECTION, LOG WEIR NO.1 →



CHANNEL END SECTION

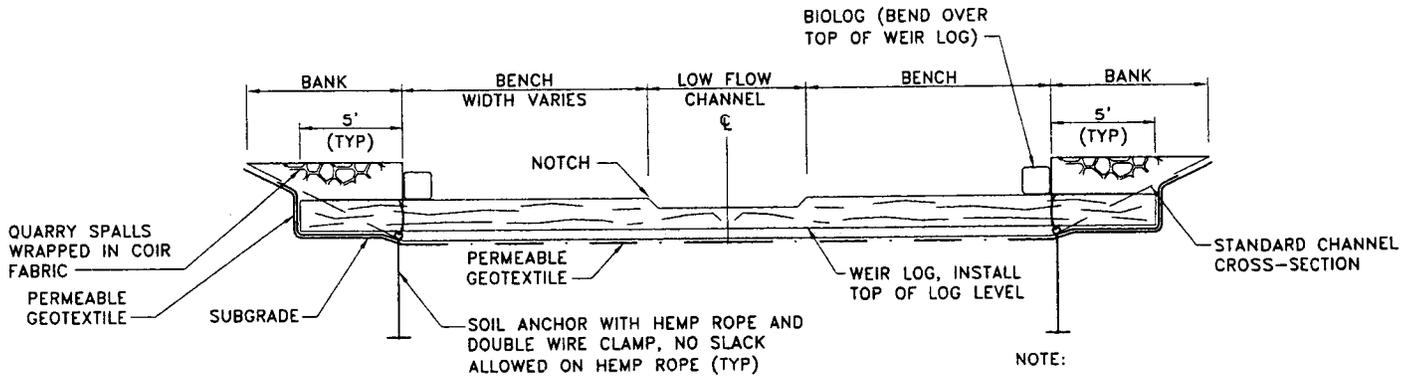
SECTION

(SEE SHEET 11)
 1" = 4'



DETAIL

(SEE SHEET 11)
 1" = 10'



TYPICAL LOG WEIR

SECTION

(SEE SHEET 11)
 1" = 10'

NOTE:

COIR FABRIC USED AT LOG WEIRS No. 2-7 ONLY.

WEIR NOTCH DEPTH CAN VARY FROM 4" TO 8" AS NEEDED TO PROVIDE LEVEL SURFACE ACROSS NOTCH WIDTH.

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

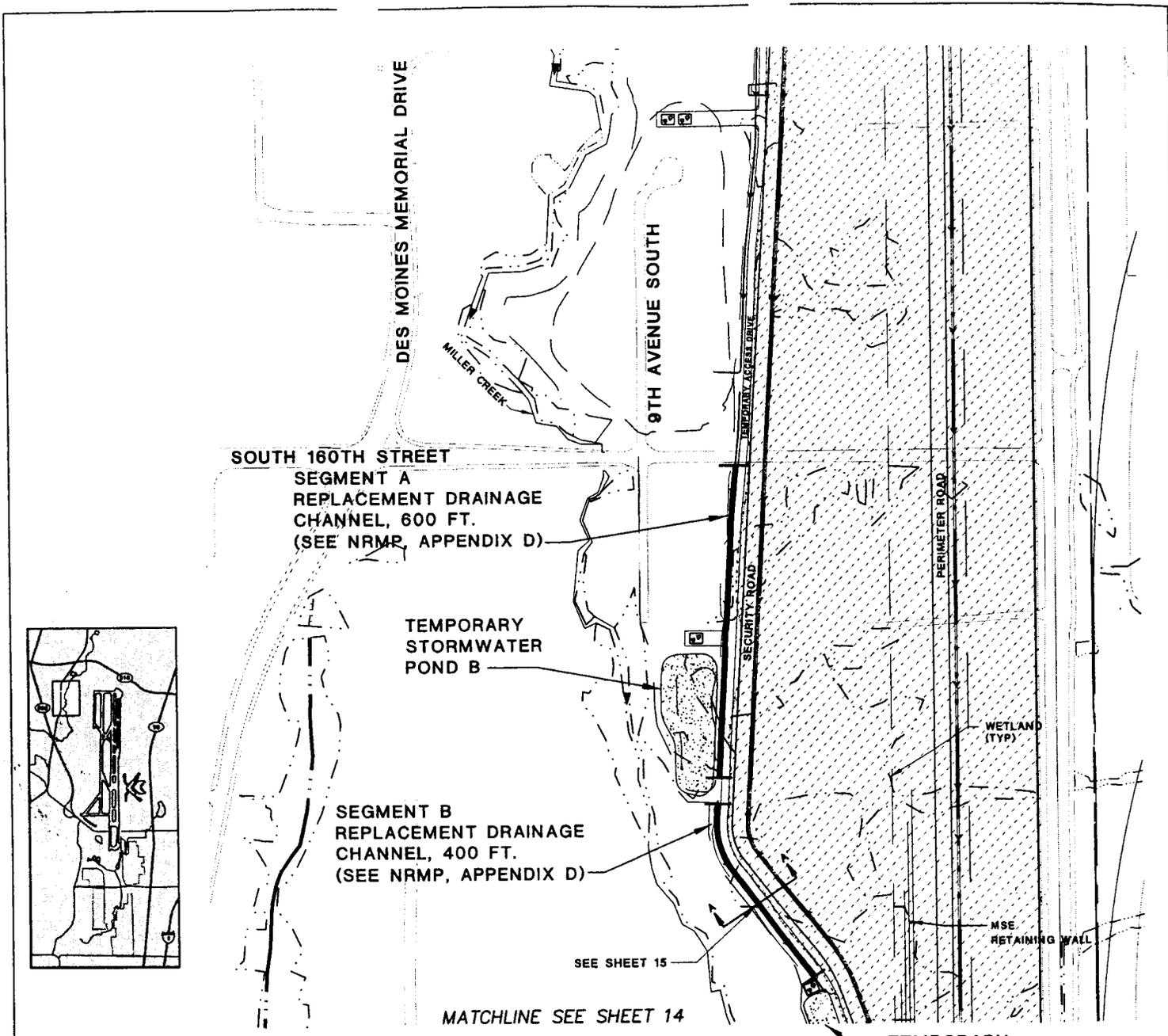
CROSS SECTIONS AND DETAIL

DETAIL, RELOCATED MILLER CREEK LOG WEIRS

IN: SECTION 20, TOWNSHIP 23N, RANGE 4E
 COUNTY OF: KING STATE OF: WA
 APPLICATION BY: PORT OF SEATTLE

SCALE AS SHOWN

SHEET 12 OF 19 REVISED: AUGUST 2003



LEGEND

- | | |
|--|--|
|  Replacement Drainage Channel |  Drainage Collection Swale |
|  Temporary Drainage Channel |  Embankment |
|  Toe of Embankment |  Wetland |

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

DATUM: SEATAC GRID
96-4-02325

PLAN VIEW



SCALE: 1" = 300'

LOCATION OF PROPOSED REPLACEMENT DRAINAGE CHANNEL AND SWALES ALONG THE WEST SIDE OF THE THIRD RUNWAY EMBANKMENT, NORTH HALF

IN: SECTION 29, TOWNSHIP 23N, RANGE 4E
COUNTY OF: KING STATE OF: WA
APPLICATION BY: PORT OF SEATTLE
SHEET 13 OF 19 REVISED: AUGUST 2003

MATCHLINE SEE SHEET 13

TEMPORARY
STORMWATER
POND A

SEGMENT C
REPLACEMENT DRAINAGE
CHANNEL, 250 FT.
(SEE NRMP, APPENDIX D)

SEGMENT D
REPLACEMENT DRAINAGE
CHANNEL, 150 FT.
(SEE NRMP, APPENDIX D)

SEE SHEET 16

EXISTING
CHANNEL
B

DRAINAGE COLLECTION
SWALE

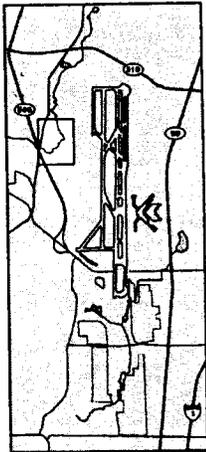
8TH AVENUE SOUTH

SOUTH 168TH STREET

TH 168TH STREET

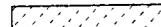
SECURITY ROAD

PERIMETER ROAD



LEGEND

-  Replacement Drainage Channel
-  Temporary Drainage Channel
-  Toe of Embankment

-  Drainage Collection Swale
-  Embankment
-  Wetland

PURPOSE: MEET PUBLIC NEED FOR
EFFICIENT REGIONAL AIR
TRANSPORTATION FACILITY
TO MEET EXISTING AND
FUTURE DEMAND

DATUM: SEATAC GRID
96-4-02325

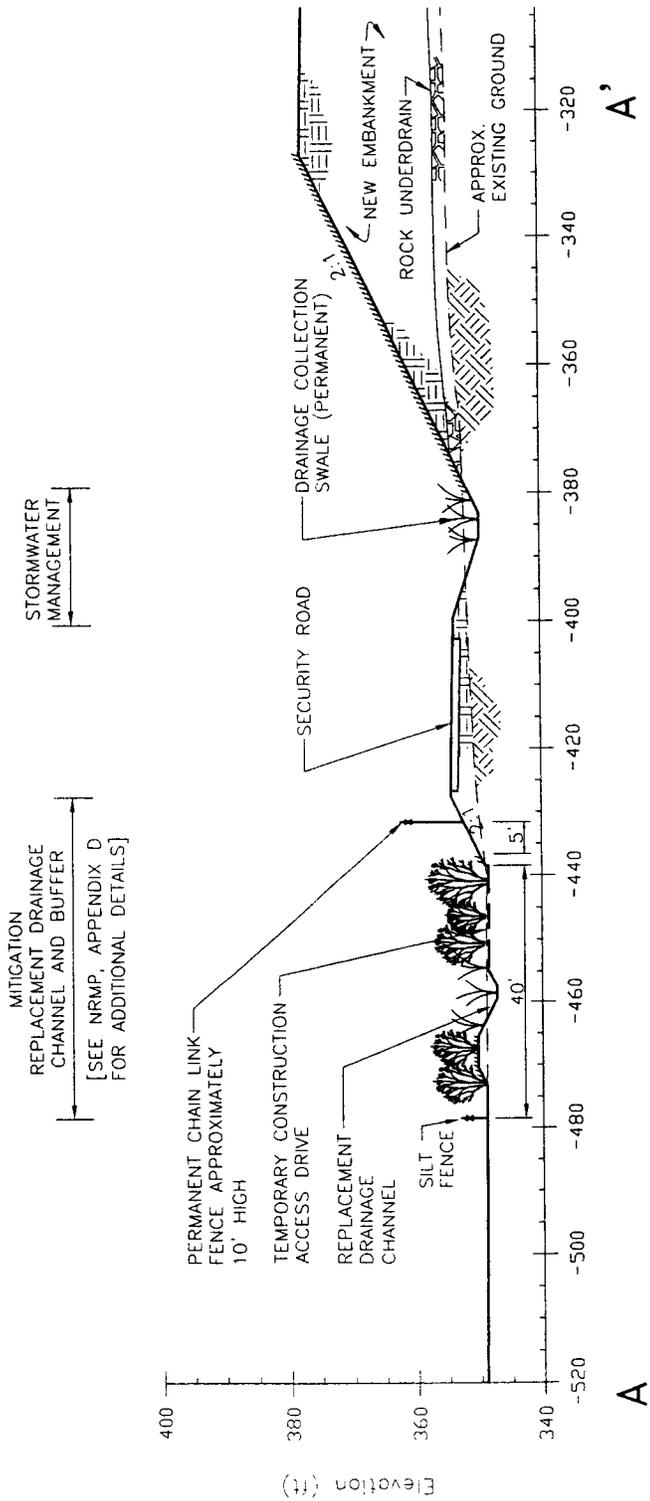
PLAN VIEW



SCALE: 1" = 300'

LOCATION OF PROPOSED
REPLACEMENT DRAINAGE CHANNEL
AND SWALES ALONG THE WEST SIDE
OF THE THIRD RUNWAY EMBANKMENT,
SOUTH HALF

IN: SECTION 29, TOWNSHIP 23N, RANGE 4E
COUNTY OF: KING STATE OF: WA
APPLICATION BY: PORT OF SEATTLE
SHEET 14 OF 19 REVISED: AUGUST 2003

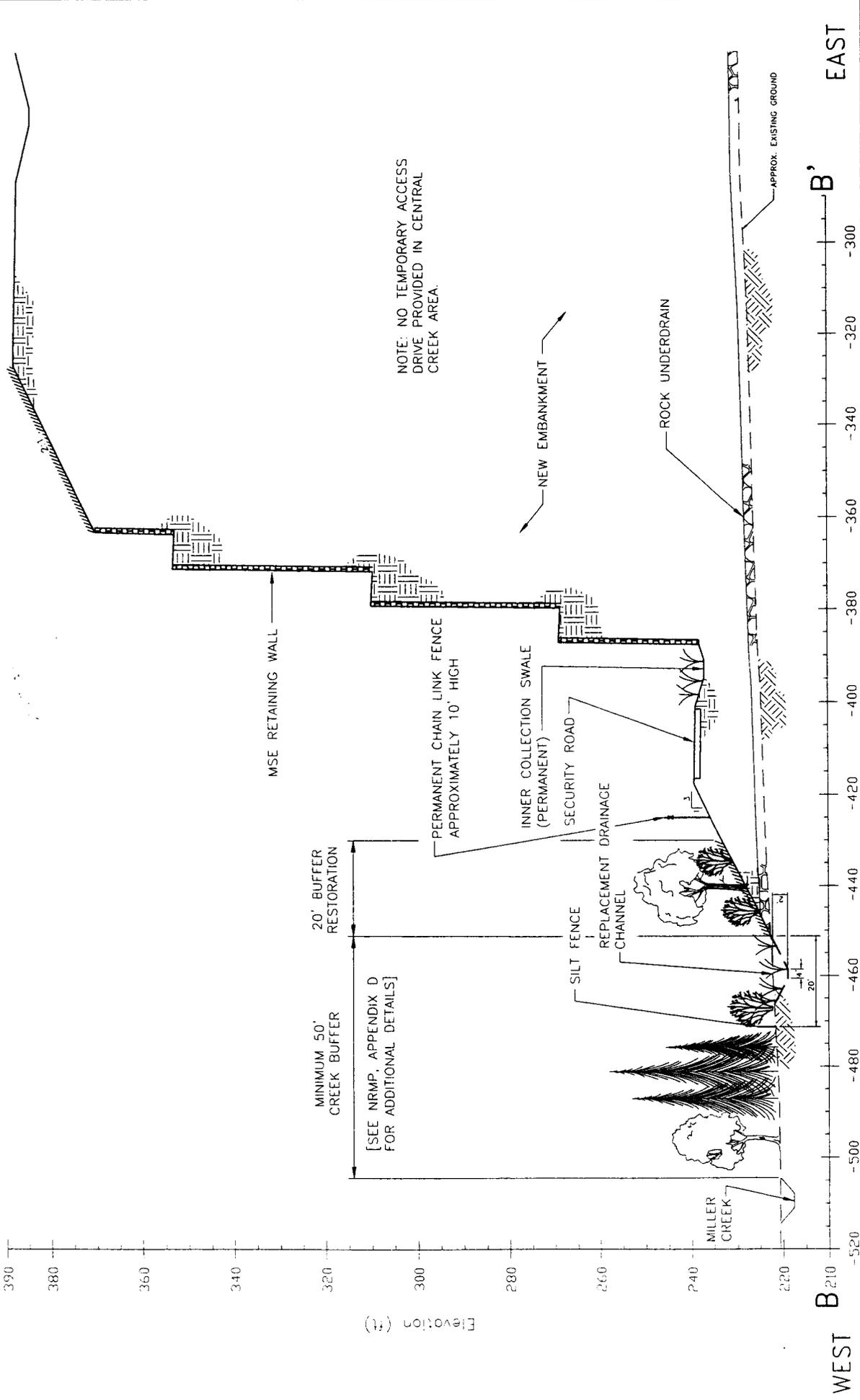


EAST

SEE SHEET 13 OF 18 FOR CROSS SECTION LOCATION

WEST

<p>PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND</p> <p>DATUM: VERTICAL: KING COUNTY HORIZONTAL: SEATAC GRID</p> <p>96-4-02325</p>	<p>CROSS SECTION</p> <p>SCALE 1" = 30'</p>	<p>CROSS SECTION A-A' OF THE REPLACEMENT DRAINAGE CHANNEL, DRAINAGE COLLECTION SWALE AND THIRD RUNWAY EMBANKMENT</p> <p>IN: SECTION 29, TOWNSHIP 23N, RANGE 4E COUNTY OF: KING STATE OF: WA APPLICATION BY: PORT OF SEATTLE</p> <p>SHEET 15 OF 19 REVISED: AUGUST 2003</p>
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WEST **B** EAST
 -520 -500 -480 -460 -440 -420 -400 -380 -360 -340 -320 -300

CROSS SECTION B-B' OF THE
 REPLACEMENT DRAINAGE CHANNEL,
 DRAINAGE COLLECTION SWALE AND
 THIRD RUNWAY EMBANKMENT

CROSS SECTION

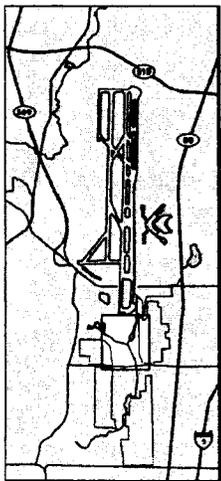
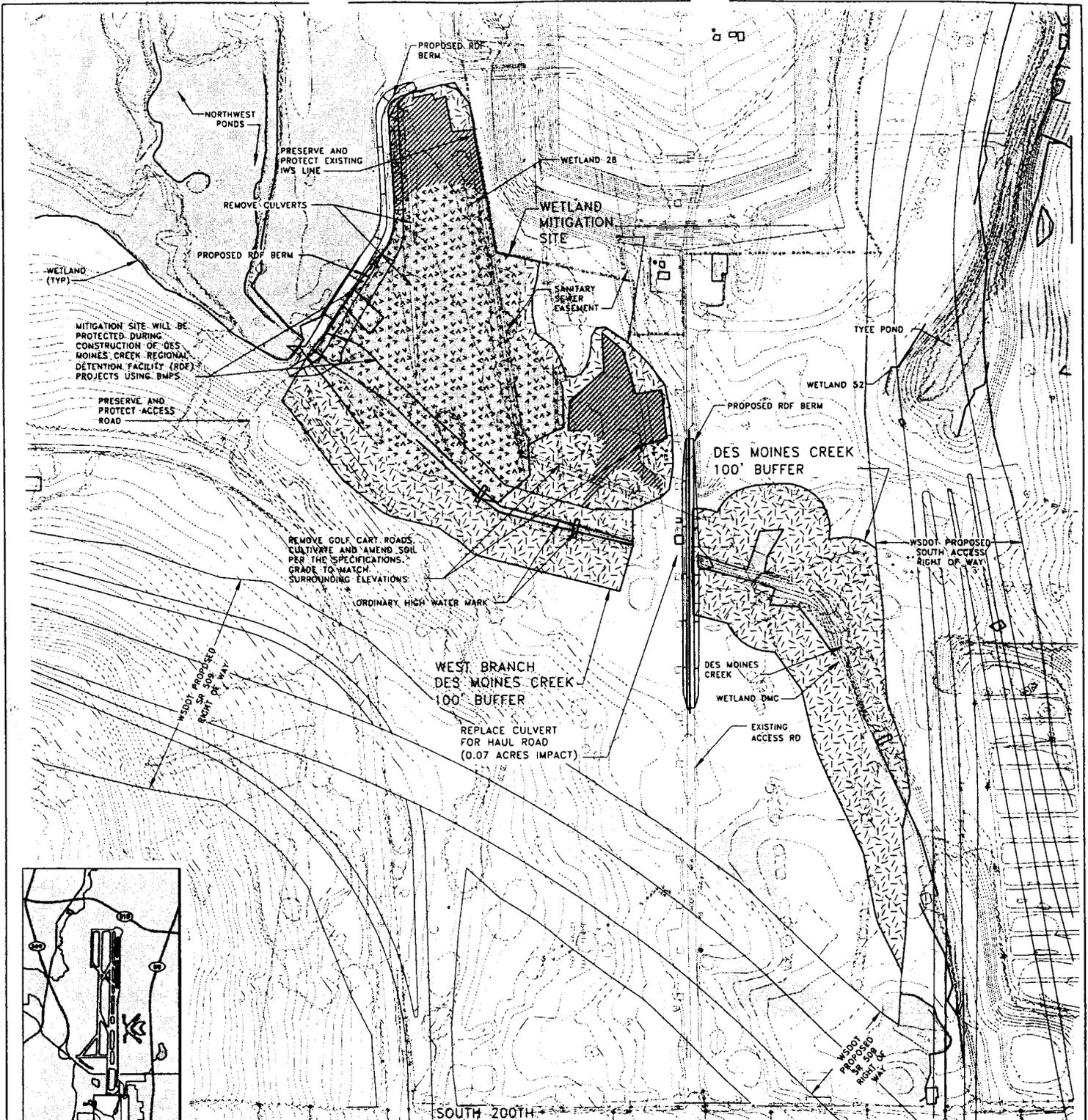
PURPOSE: MEET PUBLIC NEED FOR
 EFFICIENT REGIONAL AIR
 TRANSPORTATION FACILITY
 TO MEET EXISTING AND
 FUTURE DEMAND

DATUM: VERTICAL: KING COUNTY
 HORIZONTAL: SEATAC GRID

96-4-02325

SEE SHEET 16 OF 18
 FOR CROSS SECTION
 LOCATION

IN: SECTION 29, TOWNSHIP 23N, RANGE 4E
 COUNTY OF: KING STATE OF: WA
 APPLICATION BY: PORT OF SEATTLE
 SHEET 16 OF 19 REVISED: AUGUST 2003



LEGEND

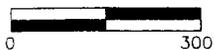
- WETLAND BOUNDARY
- WATER

- WETLAND
- BUFFER PLANTING
- WETLAND ENHANCEMENT ZONE 1
- WETLAND ENHANCEMENT ZONE 2

PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

DATUM: NGVD 29/AUBURN
96-4-02325

PLAN VIEW



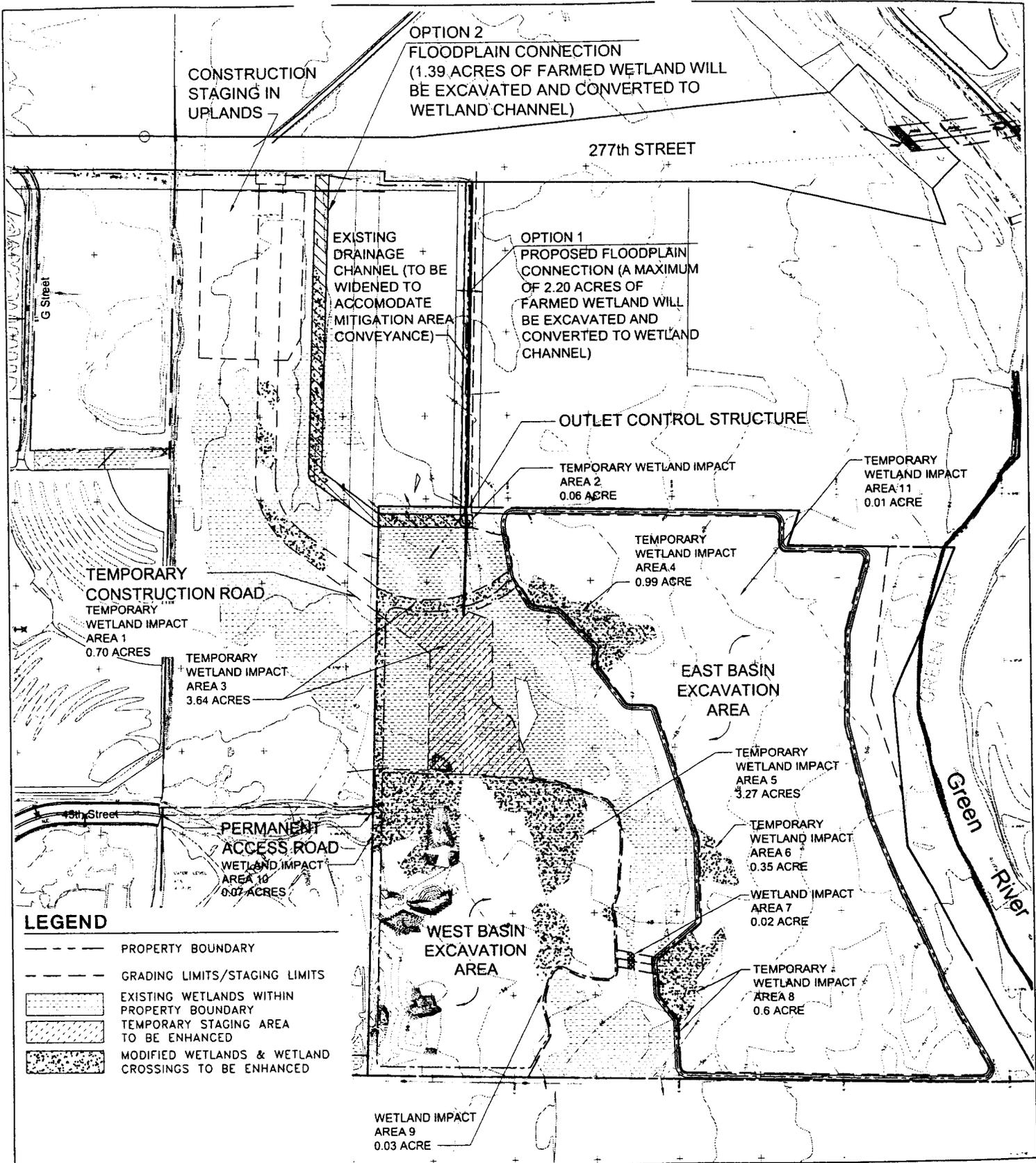
SCALE: 1" = 300'

LOCATION OF WETLAND ENHANCEMENT ON THE TYLEE VALLEY GOLF COURSE, DES MOINES CREEK BASIN

IN: SECTION 4,5 TOWNSHIP 22N, RANGE 5E
COUNTY OF: KING STATE OF: WA

APPLICATION BY: PORT OF SEATTLE

SHEET 17 OF 19 REVISED: AUGUST 2003



PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

DATUM: NGVD 29/AUBURN
96-4-02325

PLAN VIEW



SCALE: 1" = 400'

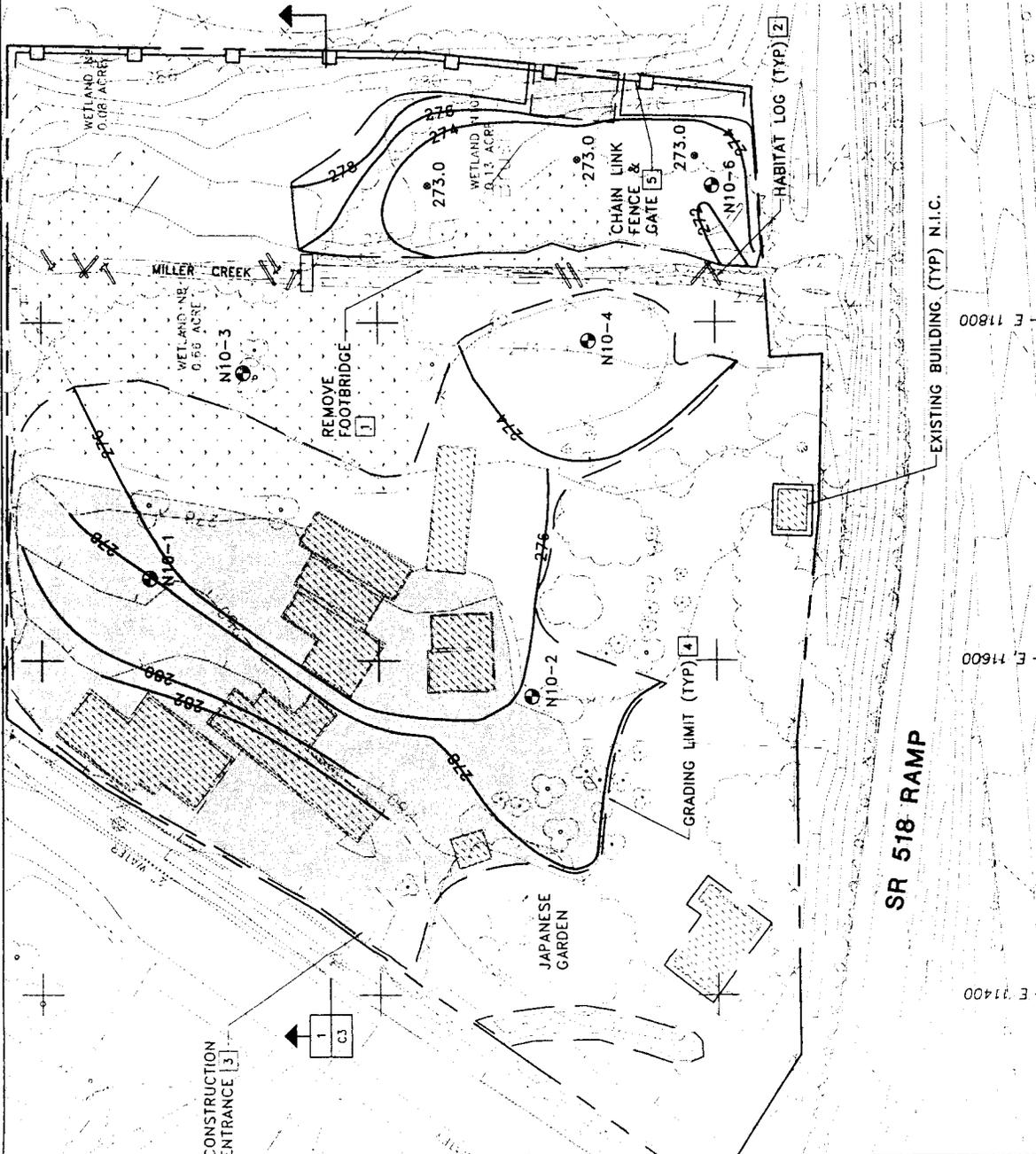
LOCATION OF TEMPORARY/PERMANENT WETLAND IMPACTS, AUBURN MITIGATION SITE (MODIFIED)
IN: SECTION 31, TOWNSHIP 22N, RANGE 5E
COUNTY OF: KING STATE OF: WA
APPLICATION BY: PORT OF SEATTLE
SHEET 18 OF 19 REVISED: AUGUST 2003

NOTES:

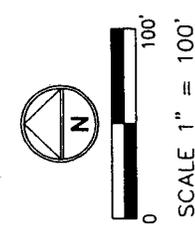
- 1 REMOVE AND DISPOSE OF FOOT BRIDGE. SEE SHEET TE1 FOR REQUIREMENTS TO PROTECT MILLER CREEK.
- 2 LOCATION OF HABITAT LOGS TO BE FIELD STAKED BY THE ENGINEER.
- 3 CONSTRUCTION ENTRANCE. SEE SHEET TE1. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PER SPECIFICATIONS.
- 4 ALL AREAS WITHIN THE GRADING LIMITS SHALL RECEIVE 12 INCHES OF TOPSOIL. PROPOSED CONTOURS REPRESENT FINAL GRADE AFTER TOPSOIL HAS BEEN PLACED.
- 5 PROVIDE CHAIN LINK FENCE ALONG EAST PROPERTY BOUNDARY WITH GATE AT TEMPORARY ACCESS POINT. SEE SHEET TE1.

LEGEND:

-  EXISTING WETLAND
-  WETLAND BOUNDARY
-  REMOVE EXISTING GRAVEL, PAVEMENT, UTILITIES, ETC.
-  EXISTING BUILDINGS AND FOUNDATIONS, TO BE REMOVED BY OTHERS
-  PROPERTY BOUNDARY
-  DITCH
-  EXISTING CONTOUR
-  PROPOSED CONTOUR
-  HABITAT LOG TYPE 1
-  HABITAT LOG TYPE 2
-  GRADING LIMIT
-  CHAIN LINK FENCE
-  HYDROLOGY MONITORING WELL



SITE PLAN



PURPOSE: MEET PUBLIC NEED FOR EFFICIENT REGIONAL AIR TRANSPORTATION FACILITY TO MEET EXISTING AND FUTURE DEMAND

96-4-02325

DES MOINES WAY NURSERY
WETLAND RESTORATION

IN: SECTION 20, TOWNSHIP 23N, RANGE 4E
COUNTY OF: KING STATE OF: WA
APPLICATION BY: PORT OF SEATTLE
SHEET 19 OF 19 REVISED: AUGUST 2003